

# Regulation of ballast water discharge

Aquatic Invasive Species Advisory Council  
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Photo credit: MI Sea Grant

# Ballast water definition

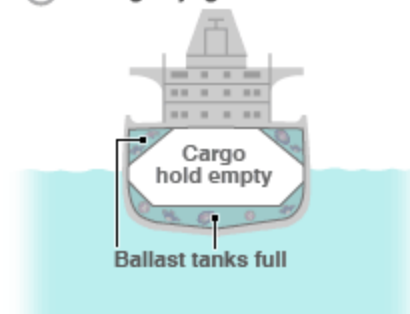
“Ballast water” means water and associated solids taken on board a vessel to control or maintain trim, draft, stability, or stresses on the vessel, without regard to the manner in which it is carried.

## BALLAST WATER CYCLE

① At source port



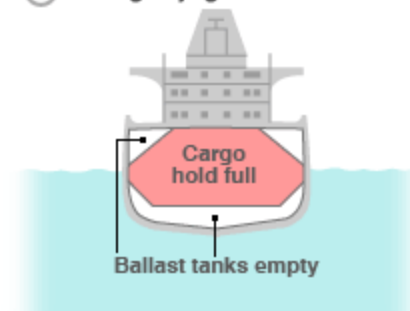
② During voyage



③ At destination port



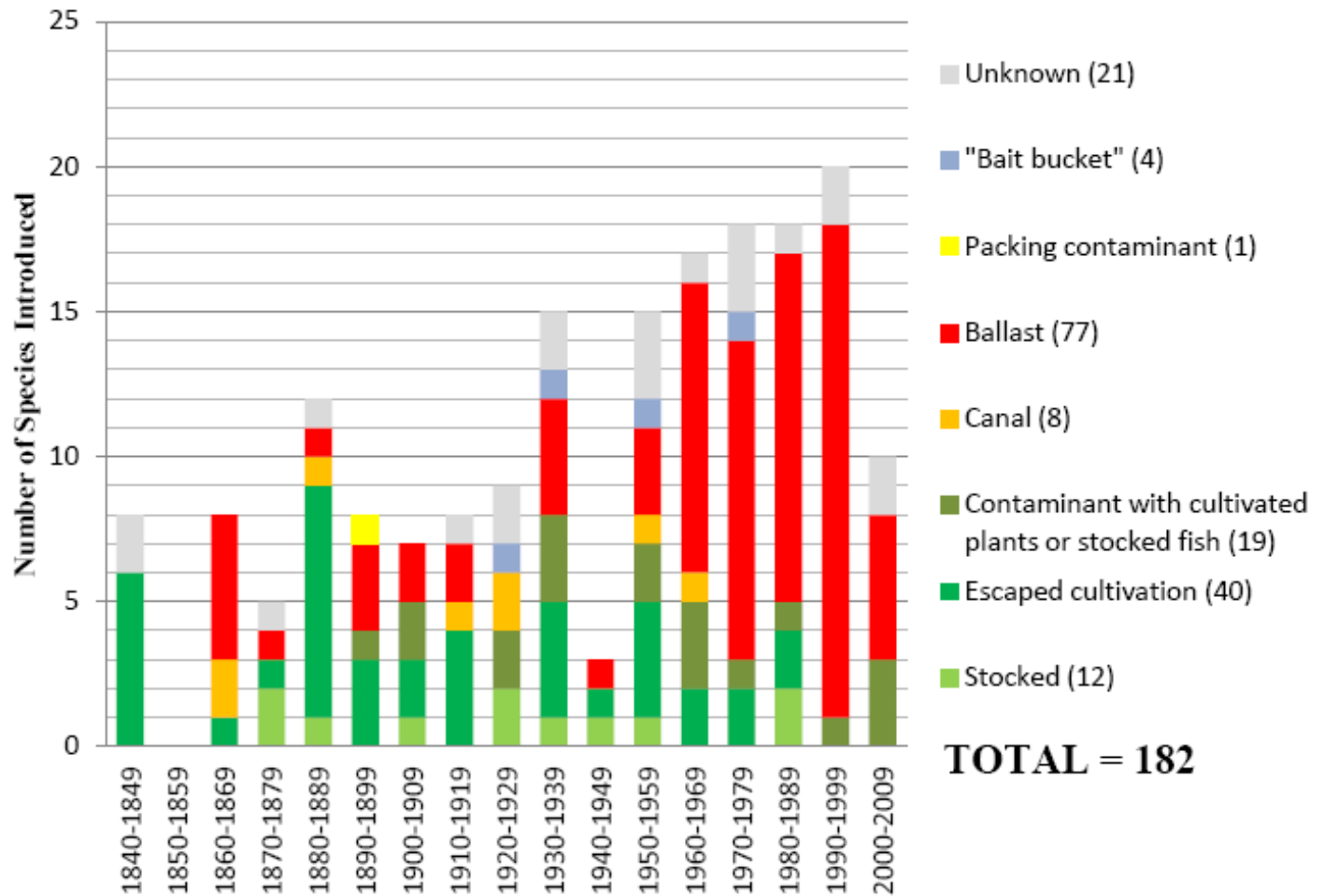
④ During voyage



SOURCE: GloBallast



# Introduction of non-indigenous species to the Great Lakes



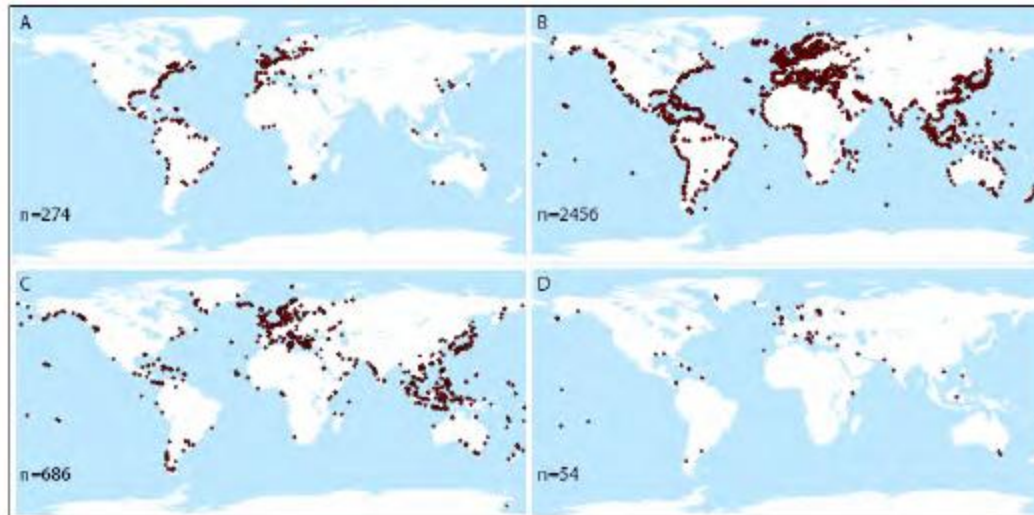
Source: NOAA GLANSIS

# Ballast water



**Direct connections to  
Great Lakes**

**2-step connections**



**3-step connections**

**4-step connections**



## Zebra and Quagga Mussel Sightings Distribution

*Dreissena polymorpha* and *D. rostriformis bugensis*



- Zebra mussel occurrences
- Quagga mussel occurrences
- Both species occurrences
- Zebra mussels eradicated



# Ballast water regulation

- United States Coast Guard final rule
- United States Environmental Protection Agency Vessel General Permit (VGP)
- State of Michigan Ballast Water Control General Permit, Port Operations and Ballast Water Discharge
- State Certification of the USEPA VGP under Section 401 of the Clean Water Act



# United States Coast Guard final rule

- Authority- National Invasive Species Act
- “...prevent the introduction and spread of nonindigenous species in the waters of the United States by ballast operations...”
- Final rule issued March 23, 2012
- Similar to conditions set forth in USEPA’s draft permit
- USCG rule established based on “practicability”





# USEPA Vessel General Permit (VGP)

- Authority: Clean Water Act “eliminate.. the discharge of pollutants into the navigable waters”
- Clean Water Act requires permit conditions (limits) based on levels technologically achievable (TBELs) and protective of water quality (WQBELs)
- WQBELs must be based on what is necessary to protect water quality, without regard to technological feasibility or cost
- First VGP issued in 2008
  - Michigan and several environmental organizations challenged
  - Permit failed to protect water quality
  - Settlement reached in 2011
- Next draft VGP released November 30, 2011
  - Numeric TBEL set at the International Maritime Organization Standard for concentrations of live organisms
  - No numeric WQBEL
  - Comments due February 21, 2012
- Final VGP2 by November 30, 2012.





# Michigan's permit

- Authority: Michigan legislation in 2005 amended the Natural Resources and Environmental Protection Act
- “...prevent the introduction of and minimize the spread of aquatic nuisance species...”
- State general permit for ocean-going vessels conducting port operations effective 2007
- Requires treatment of ballast water discharges using one of four approved treatments technologies, certify no discharge, or request use of an alternative treatment (effectiveness demonstration)
- Permit re-issued in February, 2012 with minimal changes



# USEPA VGP state certification

- Authority: Clean Water Act Section 401
- States may issue a certification that contains additional requirements to ensure discharges comply with state water quality standards
- Deadline set by USEPA for state 401 certification is June 30, 2012
- Draft certification will be made available for a 30 day public comment period running from the end of April through end of May, 2012
- Great Lakes states working to draft common language, but many challenges



A photograph of a beach at low tide. In the foreground, several large, light-colored clam shells are scattered on the wet sand. The middle ground shows the calm blue water of the ocean. In the background, a long pier extends into the water under a clear sky. A semi-transparent white box with a black border is centered over the image, containing the word "Questions?".

Questions?